Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

Vol. 3. New York, October 9, 1847. No. 3.

THE SCIENTIFIC AMERICAN

is published weekly

At 128 Fulton Street, New York, (Sun Building,) and at Mechanics' Hall, Boston, Mass.

By Munn & Company.

The Principles of the same at New York.

TERMS—$2 per annum—$1 in advance, and the remainder in 6 months.

Agents, Advertisements &c on last page.

Poetry.

NO! TO VIRGIL SO QUAINT THAN!

Oh! is there no misty isle,
Its seas as bright and fair,
Where the storm comes but to fan the green shore smiles,
Unbuckled by waves of care!
No serpent to sting the calm,
Where misery can't buy fun,
Where sorrow's dark delegates never roam!
Oh no! it cannot be!

Yet an Ark is on the tide,
For anxious hearts to gain;
And the flood that whelms with refuge beside
But lifts it nearer heaven.
It waits, at an Eden rate
The eternal hills to see;
But may it be wrecked ere it enter there?
Ah, no, it cannot be!

The hues of the faithful bow
Shall fade unmarred away;
But the tints in that pure sky shall glow
More bright and warm than they
From the
Into the crystal sea,
Not even the tiniest tear of all woe
Ah no! it cannot be!

THE LIGHTNING HORSE.

The iron horse goes dashing by,—
The turf-steed, panting, lags behind;
While the railroad cities crowd by,
As swift, aye, swifter than the wind!

But steam's too slow—it will not do;
The cry is, on! more speed! more power!
Go! search the brain for something new,
A thousand miles, at least, an hour!

And yet too slow—a faster pace!
Bring down great heaven's thunderbolts!
To annihilate both time and space,
A thought and light pass through the soul!

'Tis done! he comes! the lightning horse!
Lo! thought and time fall far behind!!
The prize is thine, immortal Morse,
A triumph grand of mighty mind!

Magnetic King, o'er Invention,
We hail thee monarch of the age;
While steam encircling land and ocean,
Is pulling, screaming 'head with rage.

Curious Information.

The mercantile shipping of the civilized world amounts to about eight million tons and nine, clear of expenses, and insurance 10 per cent, $28,000,000 per annum. The appropriations in the British navy for the current year is $22,000,000.

The military Academy at West Point has received from the government since 1st, $1,000,000.

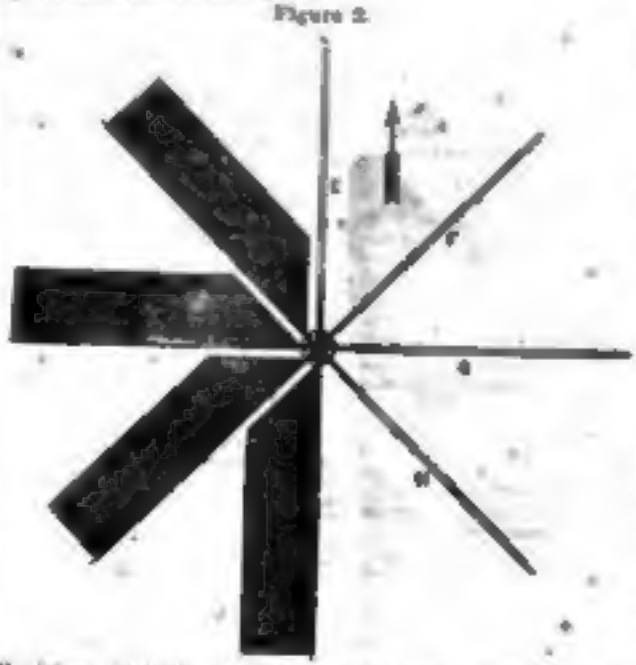
The officers of the U. S. Navy receive a salary over $2,000,000 per annum. The ministers of the gospel receive an average of $300 each. Thus the pay of our naval officers 1831 in number equals that received by more than 4000 ministers for all their labors of love.

A man who had lived much in society, said that his acquaintances would fill a cathedral but that the pulpit would hold his friends.

SHERROD'S FAN WATER WHEEL.

Description.—Fig. 1 shows a transverse vertical view of a submerged water wheel, designed for tide and river currents. A A, represents two floats designed to float every thing upon in the figure, together with a frame, which is cannot be shown. The vertical frames B B, are made fast to frames in the centres of the floats and are intended to hold fulled in they represent. The floats are held stiffly and permanently together, by means of several timbers passing the fulled wells in the bottom, and the floats at their tops, as is shown by C C. D, is the shaft of the wheel held in a perpendicular position by C and E. E E E E, are the arms of the wheel. G G, are iron rods that hold the arms together,—they also receive the pressure of the paddles and in fact, are the only support that F F F, the paddles, have in opposition to gravity, as the iron rods that connect the paddles (as can be seen let out and bolted fast with the boards that make them) pass loosely through to admit. That side of the shaft opposite the st... the stream, acts as a vertical horizontal support to the paddles when heavy when the force of the stream is up. The iron rods HH, serve the same purpose, that of supports, between the shafts and the periphery. The paddles are strongly fastened together at eleven angles with each other, allowing them eight inches perpendicular to the radius of the wheel. This wheel will run at any depth under water whatever; there is a reason, in this account it is perfectly protected from frost, except the lower or the shaft with the arms, which can easily be boarded up so that no ice can form around it. In rivers the fixtures are in fig. 1 are unnecessary, as the wheel can be fastened from shore, it not being necessary that it should rise and fall with the waters, as in tide streams, because it will run just as well under the water with little or no change in the velocity in case of a stream's rising.

Figure 2.



Here it is seen that A B C and D, are in a horizontal position, that E F G and H are in a vertical position, the stream running in the direction of the arrow, and having with its force on E G and F. E cannot move without changing its position, in the doing of which it becomes vertical, and E horizontal, both evolutions performed in the same time and while the wheel moves three, a space equal to the width of the paddles.

With the above explanation we hope to render the foregoing described wheel

RAILROAD NEWS.

St. Lawrence and Atlantic Railroad.

A special meeting of this company was held in Montreal on the 24th ult, and it was resolved that interest at the rate of six per cent be allowed on all the shares of the stock, the interest to be paid on the 1st of Jan. 1848.—Three fifteenths of this road are in progress in the State of Maine, its length about 30 miles.

Providence and Worcester Railroad.

Twenty miles of this road are completed, and the cars have made quarterly trips already upon it. It is said to be a good road both in its construction and arrangements.

Foreign Railways.

By one of our foreign exchanges we learn that the Lanark branch of the Caledonian Railway will be opened about the 1st of March, 1848, and the Edinburgh branch was to have been ready on the 1st of this month. The character of the "navvies" (laborers) on these works has undergone a complete reformation; many have been taught to read and write and a great number of them are located in neat and cozy huts, with glass windows and well ventilated, built in squares or terraces, for which they pay a small weekly rent. Crime and drunkenness have greatly diminished.

Ceylon Railway.

A general meeting of the shareholders of this company was held in London on the 13th of August. The report stated that the gov ernments both at home and at Ceylon, fully appreciated the importance of the undertaking, and that they evinced a strong disposition to assist in its promotion; the cost would be about £650,000 from Colombo to Kandy, and the government would give a free grant of the land, on a lease of 99 years.

French Railways.

There is apparently much trouble in France owing to the way in which the government survey railways. The representatives of the Paris and Lyons railway have been placed in an unfavorable position by the errors supposed by the Government engineers in their estimates for that road, they involving the company in some 2,000,000 francs more expense than is thought necessary to complete the undertaking. The penalty to be paid in case the work is not eventually proceeded in is placed in the bill before the Government committee at the enormous sum of 10,000,000 francs, a sufficient reason we should think for trouble.

Telegraph Lines.

There are already 2350 miles of telegraph wire in operation in the United States—a [illegible] of which are in a continuous line from Philadelphia to Cincinnati. In the course of a few months there will be 3000 miles in the south and south-west. There will then be one uninterrupted line [illegible] miles in length, of telegraphic communication between the [illegible] the Gulf of Mexico.

Foreign News.

[illegible]

Fair of the American Institute.

[illegible]

The Cambridge Telescope.

[illegible]

Woman's Influence.

[illegible]

Association of Geologists.

[illegible]

George IV.

[illegible]

The Female Army of Switzerland.

[illegible]

Extraordinary Blast.

[illegible]

A Tough Story.

[illegible]

Wealth of Harvard College.

[illegible]

Rum and Water.

[illegible]

Jumping Locomotives.

It has frequently happened that Locomotives have been seen to jump and run out of the rail, and the cause of the fact never been accurately ascertained for. This circumstance has occurred usually when the steam has exceeded a certain pressure. It is well known that the locomotive has an increasing velocity according to the laws which govern movements. Now in descending a steep grade the powers of steam has been injudiciously superadded, and thus an additional power is made to co-operate with the naturally accelerating velocity. The artificial power increases the velocity the moment the wheels revolve, and thus an additional weight is added to the momentum of the train.

Now, it is evident, that if the wheels are checked while the heavy body resting on them pursues its rapid course, that the two forces are not of that nature co-operating, producing a momentary check to the whole descending mass. As the resistance increases the check becomes greater, until at length the superincumbent weight pulls through the medium of the wheels, the piston with such force against the steam which has not escaped from the cylinders, as to lift the wheels and give the "jumping" action. The bearing on the rail being lost, the whole engine readily deviates and runs off the rails. Three ways of preventing this species of accident appear to me to be two. First, to increase the size of the apertures by which the steam escapes from the cylinders. Secondly, to cut off all the steam as soon as the locomotive engine has surmounted its descent, and not to give any steam until the engine has reached the level between the gradients.

Shooting Star of Southumberland from the East.

It is a fact worthy of notice, that the whole of the land in and about the neighborhood of Cramlington that, very probably the whole island in rising out of the ocean at a very considerable rate which previous, at no very distant day, Materially to affect, it not to render useless, many of the best harbours we have on the coast. At Port de Grave a series of observations have been made, which undoubtedly prove the rapid displacement of the water in the vicinity. Several large flat rocks over which schooners might pass some thirty or forty years ago with the greatest facility, are now approaching the surface, the water is scarcely sufficient for a skiff. At a place called the Cod, at the head of Bay Roberts, upwards of a mile from the sea shore and at several feet above its level, covered with sea weed and full of sea-shells mostly, there is a perfect beach, the stones being rounded, of a modern date, and in all respects similar to those now found in the adjacent land-washes.

English Chinese Collection.

This interesting assemblage of objects, which was formed by the late Mr. Nolken, Dutch, at a first exhibition, in order to exemplify the productions, manufactures, appearances, and other peculiarities in the colonial Empire, is about to be arranged throughout the premises of England for exhibition. In order to accomplish this novel undertaking, Mr. Langton and his coadjutors have had constructed 12 carriages, which when placed in juxtaposition, in the form of a parallelogram, constitute a noble and well-proportioned saloon, 175 feet in length 50 feet in breadth and 50 feet high, in which are arranged in compartments, as heretofore, all the objects constituting the Chinese Museum already referred to. A travelling band of musicians, clad a la Chinese, will accompany this singular procession of carriages throughout its provincial progress.

Passages are tabled in cement of excellent dark felt of small section, by which they absorb

Wonders of Nature.

The late Dr. Chalmers in his work on Astronomy, remarks: "While the telescope enables us to see a system in every star, the microscope unfolds to us a world in every atom. The one shows us the insignificance of the world we inhabit; the other enlarges our high destination—presenting us a universe in the compass of a point, where the Almighty Ruler of all things finds room for the exercise of His attributes." Hence the creation of Geology have brought to view a great multitude of facts, truly wonderful—especially respecting the state of animals creation many centuries past. While on the one hand it is found, by the exercise of some ancient animals, that they were larger than any now living upon the earth, on the other hand, microscopic animals, almost incredibly small, yet possessing nerves, muscles, arteries, veins, glands, eyes, and other organs, are not only found in a fossil state, but forming rocks and soil for subsequent animals. Chalk, and even flint, and some of the green sand found, is a great extent, to be composed of animalcula.—A cubic inch of this rock is said to contain the remains of one billion of living, active, reproducing beings. Prof. Hitchcock states that the silicious mass found under the great swamps in New England, appears to be made up almost entirely of the skeletons of animals. It is also said, that a thousand millions of these animals would together, form a mass no larger than a grain of sand.

The Pope and the Sultan.

The late news from Europe produces a strange item, of the truth of which there appears to be no doubt. The French and American Ambassadors have hastened hither to the Protection of the Caliphate in the East, and their interference, in case of great outrage was exceedingly urgent. They appeared to be satisfied with the Sultan and the political importance which the title of "Protector" possessed upon them. Fine ES has applied to the Sultan on the subject, and the consequence is that a Nuncio will be dispatched to Constantinople who will be the "Protector" of the Catholics scattered throughout the Turkish Empire. Some very interesting communications have been made by the Government, but the answers of the Pope's Secretary of State, have been of a most determined character accompanied with allusions to more immediate interference than the mere.—Catholic Telegraph

Screwing Disorder.

One of the subjects proposed to the English Fine Arts Commissioners for the Inspection of the House of Lords is "Raleigh bringing to Virginia." To this there appears to be a trifling objection. According to a correspondent of the London Times, Raleigh was never in Virginia, nor did he ever set foot in North America. In 1616 he sailed for Virginia, but was driven back by storms of weather, and the Shareholders of his expedition consequently turned out five or six expeditions from colony, and the country through dissensions with Spain in addition to engagement the latter with Virginia in behalf of the colonists. Their expedition were commanded by Sir Humphrey Gilbert, Sir Richard Grenville, and other able navigators, but never by Raleigh in person.

Robert Burns.

This Scotch Poet was born in 1759.—Though a ploughman originally, he soon by high poetical fire. He has been called the greatest untaught genius since Shakspeare. His poems glow with the real fire of feeling and passion. As soon as he appeared in print he was noticed and drawn from the plough to associate with men of letters and opulence. But the change ruined him. He imbibed in luxurious pleasures, till his constitution gave way, and the drunkard died. He died at the age of 38.

Steam Carriages.

A fast Sailor on horseback, carrying what he could pass free through the turnpike-gate, who is answered by a gaping dollar, that "there is nothing like trying, as a lot of boy passed through that morning with a

The Number Iron Works.

There [illegible] of Wales, the most extensive in the country, are those of Merthyr, Penydarran and the newest Rhymney, by private trading and in the shares. The site owned by the Company immediately adjoins the range of hill from which the ore is mined, and on the estate is a large supply of limestone which is a necessary ingredient in forging. The rolling mills, locks, machine shops and tenements, and many these quarters of a million of dollars. The capital of the company is sufficient but large additions and improvements have been made from the receipts and other resources. There are about six hundred persons in the immediate employment of these works, and near 1000 are supported by them, these allowing how many are incidentally employed by any set of works or extensive manufactures. They are capable of producing 15,000 tons of pig iron per annum, 20,000 tons of rail road iron annually. The ore, [illegible] of pig iron is said to amount 15,000 tons being exported to Scotland for the use of railroad companies. Thirty puddling furnaces, together forming, rolling mill and machine shops, are in operation. The rolling mill establishment alone is 400 feet long and 100 feet wide. This is the finest mill that under railroad iron in Pennsylvania. Some idea may be formed of the general extent of the business carried on, when the fact that 40,000 tons of coal per annum is used. When a road is completed from there to Philadelphia, which will be done in the next two years, the company will possess the means for operating, by drawing the coal from the valuable Mahanoy veins and sending it on a single day to Philadelphia, which will greatly enhance its prosperity.

The process of combining the different parts of an immense railroad, each of which is carefully weighed, and the proper blending of which to prove work well and rare, to the latest examples of the finest furnace, is full of industrious and pleasure. By a valuable improvement what was formerly the waste heat is now economized and forms the first process of the furnace. This is the first stage in which the rough pig iron is seen in operation to have. These ores are then taken to the puddling furnaces, where the carbon and impurities existing matters are extracted and the iron metal is converted into wrought, by the application of an intense heat, and which in forms the material in a malleable form. In this state, it is subsequently into a rotary process of rolling and afterwards straightened into. Then it undergoes a re-heating, which removes all or any portion that may have remained, and in this condition is placed under the hammer, where at the rolling mill, beginning with a huge, clumsy bar, instead of different number bars, connected by heat and passing through the different sizes of the mill, each improving the shape of the T rail, until the complete bar for the road is finally finished. Then there are machines to adjust the bar, if it be out, to prove its straightness and to straighten any curves that may exist. These are the principal features of the whole process, though there are others less important.

General Foreign.

The Mexican affairs appears to be unsettled with an extra supply of lives. [illegible] has been regularly killed in every one of the great battles. At Palo Alto he was shot in the spine shot, at Monterey, by a Texan rifle ball, at Buena Vista, by a thrust from a lancer, at Cerro Gordo he died body was found on the field of the slain at the [illegible] and as he has been killed again at Contreras. It is unlikely he has had the spirit to the getting himself killed so at last with his faculty of coming to life again.

Indigo Plant.

The British part in the cause of American patents, though born in England. He inherited a republic, and fled to the modern country at the time of the revolution. His mother was a sister of the celebrated painter, Benjamin West.

Californian Emigration.

Gov. Briggs, in his letter to Emigrants says: "Those who are well fixed in Missouri, I would say, feel better stay there—though most of the emigrants, I must acknowledge, are pleased with the country. Merchants in

Californian Houses.

Especially, the hotel furniture and medical [illegible] which are in a remarkable situation is rendered valuable due to the exorbitant prices, which prevailed, rarely a dollar [illegible] in a private house of [illegible] especially in California, in all out of the [illegible] of its preparation; and, to increase the expense, carpenters are equally extravagant and many, charging three dollars for such a day's work as one is likely to get from men who will not labor more than three days in the week. All this perhaps the Californians do not feel the privation is light to be an inconvenience. While it proves the country richer, it ruined, by any possibility, says Sir George Simpson, interests with the occupations of those who do nothing; and even for the purpose of ventilation, windows are hardly needed, inasmuch as the weather, the only thing that requires shut out, is daily enjoyed to the sun and wind. Among the Californian housewives, the bed is quite a show, enjoying, as it does, the full benefit of contrast. While the other furniture consists of a deal table and some hardy made chairs, with probably a Dutch clock and an old looking glass, the bed-stead is very elaborately manufactured, with the money almost buried with lace, the pillows covered with the finest linen in the richest satin, and its well arranged drapery of muslin and [illegible] curtains. Still, notwithstanding the fittings and the sittings, this bed is but a wicked speculation, resembling in its manner a gratuitous well built on the impregnable strongholds of ribaldry at Jerusalem.

Shaw's and Shakspeare's Houses.

The house in which Shakspeare, the great poet of England was born, is now in the market. It is rather a curious coincidence that the house in which dwelt the great poet of Scotland lived for many years, and in which he died, is in the market at the same time.

What to Drink.

An Arabian in the desert had not tasted for three days, and was on the point of death. He at last found a small feathers such as the sand, he seized it, felt it, and exclaimed, "Allah be praised! these must mean water or rain." He opened the small bundle, peeked it, and sighed, "Alas! they are only pearls."

Never pretend to know more than you do, or you'll run out of a song.

A Sea Island.

The captain of a Dutch ship on a recent voyage from Batta Cape to London discovered an island in lat. 30 10 N, long. 41 20 W. He perceived the ship in a sandy bay, and went ashore, and while taking an observation the crew came and told him they had discovered the body of a dead man. Proceeding to the spot he found it in a cave, in a perfect state, apparently, but dead up, with long straggling and wiry, and long yellow hair. He found also an oval box, on which some letters were inscribed, and a scroll but partially decipherable, which was believed together with something, but could find no [illegible]. The whole of these circumstances [illegible] curious.

Ancient Sculpture.

In the new Hall of the British Museum, some marble [illegible] have been placed which were brought over by Sir Charles Gilbert from a temple dedicated to Hercules, general of Cyprus, 300 years before Christ—the earliest examples of Greek Art in our possession, showing that the same principle in building and working the marble was used then as now.

Election Cakes.

At one of the borough elections, a London paper says that after some of the voters had taken their coffee before proceeding to the poll, a remarkable sediment was found in the bottom of their cups; it was nothing less than a golden sovereign which had probably been considered as excellent substitute for sugar by those who provided the coffee.

Talented Baron.

The Baron, who was distinguished for his eloquence and political knowledge, was born in 1720. He was not only distinguished as an orator, but as an author his talents are generally misunderstood. He was eminent

New Inventions.

[illegible] Hemp Brake.

Franklin Holcomb of Newcastle, Delaware, has invented a splendid Hemp Brake which ought to arrest the attention of our southern and western farmers. It is very simple in its construction and easily managed, and will do a great [illegible] of work [illegible] in [illegible] operation. [illegible] is about $[illegible], and it can be well worked by a one horse power. This brake, for which Mr Holcomb has secured a patent, obviates the great evil complained of in brakes previously invented, of breaking the fibres of the flax into short tow; the flax is operated upon by two revolving blades in straight lines whereby it is kept perfectly smooth and straight by having the breaking and cleaning done by separate cylinders.

Stump Machine.

Mr W. Willis, of South Orange, Mass., has invented a stump machine of wonderful power. A short time since, at Pennington, he surprised the people by pulling out a number of white oak stumps that had recently begun to rot. The horizontal lever of his machine, which is moved by one yoke of oxen, gives his team great power, as the lever is [illegible] feet long, and the tug chain is but one foot from the point of fulcrum. In addition to his lever power Mr. Willis uses a triangle, over which the tug chain passes, and draws the stump up in a perpendicular direction—the only kind of draft that will draw out white oak roots. The shears are set upright ten or twelve feet high, on the side next to the lever, and as they rise, with the movement of the lever towards it, they add much to the power of that lever. They fall in proportion to their inclination from a perpendicular position, and exert a power similar to that of the toggle joint used in printing presses, &c. In a certain stage of the movement this power is immense, and probably equals the lever power, on which the oxen operate in a direct line.

Boot Crimping Machine.

Among the most useful and ingenious labor saving inventions on exhibition at the late Mechanic's Fair at Boston was a machine for crimping boots, which is pronounced by competent judges to excel every article hitherto used for similar purposes. The inventor of this machine is Mr. John F. Tucker, a poor, industrious and hard working mechanic, occupying a small shop on Canal street, Boston, where he has one of them in constant operation. The expense of the machine is about $[illegible], and is made with [illegible] pairs of "jaws" firmly fixed within a wheel, and so constructed as to make one revolution every five minutes, and "turn out" at each revolution eleven pairs of "uppers," crimped in the most perfect manner. This invention is well worthy the attention of all manufacturers of boots, and the inventor will no doubt reap a rich harvest as the fruit of his ingenuity.

Improving Cannon Balls.

There were exhibited at the Boston Mechanics Fair a [illegible] destructive missile which when it leaves the cannon branches out into huge knives clearing every thing before it, more fierce than the scythes of the old [illegible] chariots. It is the invention of Mr. [illegible] of Boston.

Cotton and Wool Twist.

There was also exhibited a most excellent improvement in the manufacture of cotton wool thread. It is a machine which covers a cotton thread with wool so perfectly and beautifully that not a part of the cotton is seen. This we consider to be of great value to our manufacturing interests, as by this means a cheap and far more durable cloth can be made, than it is wrought of wool, very different indeed from the cloth made of cotton warp and woolen filling (weft.) The thread which we have seen made by it is really a superb article.

[illegible] Churn Plough.

Mr. [illegible] of Washington county, Pennsylvania, is the inventor of the improved plough which bears his name, and which is now the subject [illegible]. It consists of two [illegible] wing bars, one right and one left, and also one shovel bar, [illegible] from behind. The bars are secured on wooden [illegible] and these secured by screw bolts to a frame consisting of three cross bars and a pair of shafts. The [illegible] plough [illegible] being [illegible] to [illegible] a portion of the [illegible] in the form of [illegible] to the back of the frame. The wings may be changed so as to throw the mould [illegible] so as to [illegible]. [illegible] of these plough a two rows of corn, equi-distant, and if the land is wanted to be laid in beds, the furrows to be arranged so as to throw up the bed and open the furrows.

Ventilation.

Mr. Frederick [illegible] of Boston, has recently patented an ingenious apparatus for ventilating ships and dwellings, and has also applied it to chimneys to prevent them from smoking. The ventilators are [illegible] and are so constructed that with one [illegible] produce a current of air inward or downward, while with the other a [illegible] current outward or upward is kept up; and that too, whatever may be the force or direction of the wind. The ventilators are attached to tubes which pass into the hold of a vessel or the interior of buildings. Attached to chimneys, it is believed to prevent their smoking—an [illegible] which it is claimed [illegible] and of special importance both to city and country. A trial of them in Boston has proved them entirely successful in ventilating a large public hall.

Machine for [illegible] Pins [illegible].

Mr. A. Woodward, of [illegible], Mass., has invented a machine for making pin [illegible]. The machine [illegible] the [illegible] in two [illegible] [illegible] the top, the other being just [illegible] [illegible] [illegible] and [illegible] a [illegible]. [illegible] of [illegible] the machine [illegible] and [illegible] at the rate of [illegible] thousand in ten hours. The [illegible] are then [illegible] in a [illegible] [illegible]. The machine is simple, and can be worked by [illegible] the [illegible] of [illegible] employed in making [illegible] by [illegible] [illegible].

UNION SAFETY GUAGE.

A, is a brass receptacle (cast,) which by a flange is connected with a wrought iron tube which enters the boiler at or near the top, and by another flange it is connected below with another wrought iron tube which enters the boiler a little above the bottom. At C, is a cock with a [illegible] passage through it, working in a [illegible]. When this cock is in such a position that the passage through it corresponds with the passage in the lower iron tube leading from the boiler into A, there is a free communication between the upper and lower parts of the boiler through the upper and lower iron tubes and through A, which unites them, and the communication outwardly with A, through the horizontal passage of the socket, is of course closed; and in this position it usually stands, and if the proper quantity of water is in the boiler, whether it be foaming or not it stands in A at the same height there. When it is desired to ascertain the quantity of water in the boiler the cock is turned one quarter of a circle. This closes all communication between A and the lower part of the boiler, and the quantity of water cut off in A, will, by the opening of the passage leading from it through the socket horizontally being acted upon by the pressure of pure steam from the top of the boiler through the upper iron tube, be forced out and discharged into a small cup attached in some convenient way for that purpose. The capacity of the cup should be made equal to that of A, so that by the quantity received into it, it is at once known at what point the water stood in A, and that in the boiler opposite that point is the correct water line for the time with [illegible] quantity, whether there be foaming or not. When it is seen that all the water from A has been discharged, and pure steam begins to issue, the cock is turned and [illegible] the [illegible] [illegible] [illegible] and opening [illegible] the passage to A and the lower part of the boiler. At C, is another cock, which [illegible] stands open, and may be closed at the time of [illegible] tube B, [illegible] the [illegible] of the water, but is not [illegible] [illegible] to this [illegible]. The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] which [illegible] [illegible] [illegible] the [illegible] [illegible] should it become obstructed.

Thus it is evident that [illegible] [illegible] [illegible] [illegible] [illegible] quantity of water in the boiler is ascertained in an instant, [illegible] of the foaming in which [illegible] [illegible], [illegible] certainty of [illegible] action, which [illegible] [illegible] to be desired. It is hardly necessary to mention that instead of the four way cock, two single ones may be used. It is clearly [illegible], which would apply to the case, that the boiler should foam so much as to throw water up to the top of the boiler, and that while discharging water from A, it should continue to discharge water instead of pure steam, the state of the boiler would be at once understood, and the upper cock might be closed while discharging water from A, on a second trial. It will be seen also, that the very [illegible] of frequently opening and closing the cocks would [illegible] the [illegible] of any [illegible] in the passages.

The Union Safety Guage is the invention of Mr. J. [illegible], of Washington, D. C. Its application is very intended to be exhibited in the above engraving. It is an instrument that can be applied to any boiler, and from its simplicity and beauty, at least ere long come into general use. It is a useful invention with many important claims. A model of it may be seen at the Fair, No. [illegible].

Rope Machine.

Mr. S. Whipple, of Providence, R. I., has invented a new method of making rope, by which he can make a rope of any length in a square room—[illegible] away the necessity for long ropewalks. Two tubes are made to [illegible], with [illegible] of the ends of the rope, so as to take the [illegible]. The strand is formed and a rope laid in a more perfect manner, and at far greater speed than a ropewalk. From [illegible] to [illegible] feet of [illegible] rope may be thus made in a minute smaller sizes faster. One man could tend a number at the [illegible] of [illegible].

[illegible] Clock.

Mr. S. [illegible], is now putting up a clock at Harper's Ferry, which is a great curiosity. There is a [illegible] in the clock with a tell-tale bell, which is called the "tell-tale." It is to watch the watchman of the establishment, who must be on hand every half hour to pull the bell, or the register will mark his delinquency of duty.

LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Oct. 9th, 1847.

To Thomas [illegible], of New York, for improvement in Lard Lamps. Patented Oct. 9, 1847.

To William Simpson and [illegible], of Lempster, N. H., for improvement in Water Wheels. Patented Oct. 9, 1847.

To William Miller, of [illegible], Penn., for improvement in Fences to prevent injury by floods. Patented Oct. 9, 1847.

To [illegible] Perry, of [illegible], New York, for improvement in Steel [illegible]. Patented Oct. 9, 1847.

To John [illegible], of [illegible], New York, for improvement in [illegible] for [illegible] Patented Oct. 9, 1847.

To L. H. [illegible], of [illegible], Ohio, for improvement in Fire Arms. Patented Oct. 9, 1847.

To [illegible] L. [illegible], of New York, for improvement in [illegible]. Patented Oct. 9, 1847.

To Richard [illegible], of [illegible], Mass., for improvement in Looms. Patented Oct. 9, 1847.

To Abraham and [illegible], of [illegible], N. J., for improvement in [illegible] machines for [illegible]. Patented Oct. 9, 1847.

To S. F. Smith, of Charleston, South Carolina, for improvement in [illegible]. Patented Oct. 9, 1847.

ADDITION.

To [illegible], of [illegible], New York, for Design for Stoves. Patented Oct. 9, 1847.

To Samuel D. [illegible], [illegible] of [illegible], of [illegible], New York, for Design for Stoves. Patented Oct. 9, 1847.

To J. B. [illegible], of [illegible], New York, for Design for Stoves. Patented Oct. 9, 1847.

To [illegible] and [illegible], [illegible] of [illegible] C. [illegible], of Troy, New York, for Design for Stoves. Patented Oct. 9, 1847.

INVENTIONS AND CLAIMS.

Improved Wiffletrees.

Invented by John Langdon, of [illegible], Penn. Patented [illegible] August, 1847. What he claims as his invention, and secures by Letters Patent, is the combination of the lever [illegible] with the spring bolt for attaching the [illegible] to the single tree and detaching the latter from [illegible] to the manner and for the purpose set forth.

Flax Brake.

Invented by William M. Fulton, of Troy, N. Y. Patented August [illegible], 1847. What he claims as his invention, and secures by Letters Patent, is the manner of dividing the grate into comparatively [illegible] of [illegible] [illegible] bars or teeth, having an oscillating or [illegible] motion with the [illegible] bars of which they form a part, or to which they are united, and this in combination with the [illegible] shaft, through which the said motion is [illegible] from the lever.

Self-acting [illegible] Press.

Invented by [illegible], of [illegible], Ohio. Patented [illegible] August, 1847. What he claims as his invention, and secures by letters patent, is connecting the two lever frames and the platen or follower together by a pivoted rod, midway between the points of support of the lever frames, when this is combined with the connecting of the bed of the press by the two fulcrum rods attached to the lever frames on each side of the central rod at [illegible] of the [illegible] lever frames and platen, whereby the [illegible] of the press answer the purpose of legs to support the whole press and by which also the whole weight of the frame and all other parts of the press act on the lever [illegible] to give the required pressure.

NEW YORK, OCTOBER 5, 1847.

Telegraphic.

Methods for telegraphing news rapidly to great distances have been employed from time immemorial. The sounds scattered throughout Europe and America, were no doubt used for such purposes as well as for places of defence. The Romans had towers erected on their great roads at certain distances, and on commanding situations, so that a light being set on a wall could be replied to, or conveyed as intelligence, hundreds of miles in a few hours. The cairns in England, Ireland and Scotland, were undoubtedly used for the same purposes, as they are all placed upon commanding heights and tradition corroborates the supposition. In Ireland the tradition is that the Danes erected those mounds. In Scotland the tradition is, that the Picts erected them and that they were used to give warning of danger to other places, by lighting a fire on one, which in a short time would be replied to by thousands "flashing on hills and mountains stern." In Switzerland the same system is often used at the present day, and frequently by fire it bears mail to Britain during the last ten years by the peasantry to mail districts.

With the progress of physical science the means of conveying intelligence rapidly have not been neglected, and it is no longer a desideratum—it is a discovery. In the wings of the swift lightning the thoughts of man can now be conveyed from one to two. The first idea of employing lightning—electricity—for the purpose of conveying intelligence was suggested by the great discoverer himself, Benjamin Franklin, but the success of the application was destined for another.

From every source which has been opened unto us by examination, it would appear that Prof. Semmering of Bavaria was the first to employ the galvanic agency to telegraphing.—He constructed in 1807, a model in the University buildings of Munich, but he employed 35 wires and it was found to be practically useless. In 1833 Gauss and Weber commenced a series of telegraphic communications respecting observations making at the Observatory and the Physical Institute at Gottingen. Their telegraph had only two wires, and was successfully worked for some years. In 1834 the directors of the Leipsic Dresden Railway voted two thousand dollars for experiments on Gauss and Weber's plan, but they failed. In 1840 Mr. Wheatstone employed first successfully his telegraph on the Great Western Railway. The first telegraphs constructed in England were composed of a number of wires insulated in glass tubes, operated on by keys nearly like Morse's. In 1837 a telegraphic model of a machine was exhibited by Wm. Alexander, before the Society of Arts in Edinburgh, and this was the first time the thing was brought in a tangible shape before the public in Britain. Mr. Alexander's apparatus had thirty copper wires for the 25 letters of the alphabet, the points and an asterisk. It was operated on like a piano. We have been informed that the subject of Morse's Telegraph was suggested to the Professor's mind in 1838, and Wheatstone conceived the idea of his telegraph in 1837. Morse's plan is different from Wheatstone's and is so well known that a description is superfluous. It is simple and a knowledge of it has been scattered throughout the land by a pamphlet published two years ago.

There is now another system of telegraphing which in regard to intimate, conflicts with Professor Morse's. It is the invention of Mr. Hasler, and instead of an alphabet of dots and lines made by a point like Morse's, it prints distinct Roman letters. An operator by it in Cincinnati can print his message in Louisville. The appearance of the machine is something like a piano. It has keys labelled like the letters of the alphabet and upon the top of the key is a small horizontal wheel, upon the edge of which every letter is cut. Around a [illegible] circular standing near the wheel passes a narrow ribbon saturated with ink, and between it and the wheel passes also a narrow slip of paper; upon touching the key A for instance, the little wheel performs quick as thought, until A is presented to the ribbon, which at the same instant strikes intensely, driving the paper and ribbon against the letter and makes the impression.

There are many claims to originality in regard to the first invention of the electric telegraph, but previous to all the inventions and applications we have mentioned, there is a passage in Young's Travels in France, published in 1787, which states that it was known at that period in that country and practised to some extent, by a gentleman named Lamond, which, if true, throws darkness upon the light of more modern invention.

Railroads and New York Canals.

In an excellent article from the pen of Mr. C. B. Stuart, Chief Engineer on the Great Western Canada Railway, which appeared in the American Railroad Journal a short time ago, it appears that there are 7241 miles of rail road in New York, 687 locomotives and 803 passenger and other cars. There is one thing which shows an evident difference in business or traffic on the different roads, viz. the number of locomotives employed. On the Hudson and Mohawk there are six engines for 17 miles of railroad, while on the Lockport and Niagara Falls Railroad there are only two engines employed. On the Utica and Schenectady Railroad there are 13 locomotives for 78 miles of road and on the Auburn and Rochester, of the same length, there are only 10. On the Long Island Railroad at 92 miles, there are 15 locomotives, the most number on any the 78 miles of the Utica and Schenectady road. There is a united interest in reliance on five roads, viz. the Albany or Mohawk, Utica, Syracuse, and the Auburn and Rochester.—They are adding to their roads at the rate of three cars per week. The snow and loss of engines on the whole Western route last winter was enormous. Some the great amount of freight to the Atlantic markets. A contract was made last winter by the Directors of the five united Roads for more than one hundred cars.

Yankee Ingenuity and Energy.

The following facts are stated in the Boston Mail Extra:—

We were somewhat surprised the other day to learn that the children in the interior towns who occupy their time in picking berries, during the season of them, earn upon an average, about one dollar per day, and the largest part of the money finds its way into the Savings Banks of the State. The women also frequently engage in this business, and we have heard of two cases of female industry and profit, in the town of Lincoln, which appear to us to be worth mentioning, one woman did all the house work for her family and earned eight dollars per week in picking berries; and in the other case a woman and her daughter did all the work for the family, having several men to work upon the farm, took care of the dairy of eight cows, and earned fifty dollars in one month, in picking berries. We imagine these instances are not singular, and probably similar cases of industry and thrift may be found in almost every country town in the State, and they are illustrative of the character of the people.

New Periodical.

The new factory of the Boston Mercantile, paper hangings, is now nearly completed, and will be in operation in about a month. This factory is the most commanding building and is the largest manufactory (being almost four hundred feet in length) in Philadelphia, and will give employment to some two hundred hands. The building is ornamented by a cupola, which affords a magnificent panoramic view of the city and its environs. There is to be a vane and ball on the cupola, surmounted by a liberty cap—and probably a bell and clock may be added.

The medical profession of Tennessee propose holding a convention on the 15th of next month, for the purpose among other things of [illegible]

Electrotype and Galvano-Gilding.

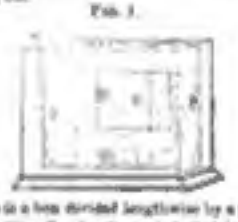
That new science is intimately connected with Voltaic Electricity, and was discovered by Mr. Thomas Spencer, of Liverpool, who publicly brought it into notice at a meeting of the Liverpool Polytechnic Society Sept. 19th, 1838, and what is very singular, it was discovered by M. Jacobi, at the very same time.—Unknown to each other these men had unfortunately made the same discovery and both had made applications for a patent at the very same time, which were not granted because neither could agree to take it out jointly.—This science relates to the depositing precipitated gilt metals.

Or, to be more plain, it is well known that however hard the crystals of metals are, and however insoluble in water. they can easily be made transparent and soluble in acids and in that state mix easily with water. Now the electrotype is the science of separating the metals from their acidulous combinations and making them adhere to a peculiar substance and in in a peculiar manner, in other words, by the electric agency the metal or metals are separated from the acid and deposited where the electrician desires and in what form he chooses, such as taking the similies of medals, engravings &c. As we purpose to give a series of articles on this science and make it so plain that any amateur can perform beautiful experiments, it is necessary that we should state the ruling and positive principles of the science.

In the first place: If a piece of zinc and a piece of copper be stretched one to each end of a wire, and the two be joined to a vessel containing acidulated water, an electric current will immediately be generated, or rather a transfer of electricity takes place between the two metals. The positive electricity passes from the zinc through the liquor to the copper and consequently in course along the wire. The fundamental principle is, that the passage of the electricity is from the zinc to the copper. The positive is the end where the electricity leaves the battery. The science then of Electrotype consists in preparing for negative plates moulds of a certain form of objects to be copied and to so arranging the apparatus which generates the voltaic current as to release the metals as a required term.

The first plan for performing such operations, but on which great improvements have been made, as we shall show in the progress of our work, was that employed by Messrs. Spencer and Jordan, as exhibited in the following cut.

Fig. 1.



This is a box divided lengthwise by a porous partition P, of unglazed baked in solid, making two chambers of unequal size, the one for the zinc being one-third the size of that for the copper. C, is a copper plate suspended in the box connected with a plate of zinc passing over the division of the box B. In the cell containing the copper is a strong solution of the sulphate of copper and in the cell of the zinc a solution of diluted sulphuric acid, and the two plates were connected by a copper wire. Face to face with the copper plate was another wire, in connection, on which was the medal to be engraved, and from the time the galvanic current was observed to proceed from the zinc cell, so gradually was there a deposition of copper on the other end of the wire on the medal. Models for this purpose are peculiarly made, as the effect will not be produced. The process of taking correct plates occupies at least three days, but we shall describe these things more fully as we proceed, until we have illustrated and explained minutely the whole system of electro-metallurgy and electro-gilding.

The Current Rate of Steamers.

We see, by a report of a select committee to the House of Lords, that the British Government receives, in postages, from Cunard's line some that it pays. Cunard receives £80,000 and the postage received is £80,000. He o-

Improvements and Visionary.

A correspondent of the *National Era* communicates the following extract from a letter of Robert R. Livingston, former Chancellor of this state, to Mr. John Stephens. We compared it to the conclusions of those wise persons who cry "impossible!" to every new plan for the good of mankind.

ALBANY, March 11, 1811.

"DEAR SIR: I did not till yesterday receive yours of the 25th of February: whose it has loitered on the road I am at a loss to say. I had before read your very ingenious proposition as to the railway communication. I fear, however, on mature reflection, that they will be liable to serious objections, and ultimately more expensive than a canal. They must be double as to prevent the danger of two such heavy bodies meeting. The tracks on which they are placed must be at least four feet below the surface, and three above, and must be cheaped with iron; and this would hardly sustain so heavy a weight as you propose moving at the rate of *four* miles an hour on wheels. As to wood, it would not last a week. They must be covered with iron, and that too, very thick and strong. The means of stopping these heavy carriages without a great shock, and of preventing them from running upon each other, (for there would be many upon the road at once,) would be very difficult in case of accidental stops, or the necessary stops to take wood and water, &c., many accidents would happen. The carriage of condensing water would be very troublesome. Upon the whole, I fear the expense would be much greater than that of canals, without being so convenient."

A Large Factory.

On Monday night a three story brick building occupied for turning and sawing and the manufacture of gothic and fancy cabinet ware in Lewis street Philadelphia, fell to the ground and the fourteen of the establishment who slept in the second story, was precipitated into the mass of ruins necessitates of any thing until he realized a judgment among lumber, bricks, &c. Fortunately his bedding stood with him, and he escaped without injury. This is the second instance of the individual's having had a house fall to pieces around him. The other time he received a slight wound.

Coal in Maine.

It is now said that it will not be necessary to import coal from Picton for the large rolling mill now constructing in Boston, as a vein has been discovered on the St. Croix river in Maine, which is supposed to be a continuation of the great Picton field. Explorations are now going on to prove the supposition.

Starch.

There is now starch made from potatoes in S. England, 22,000 lbs. weekly. There are 100 establishments engaged in its manufacture, principally in Maine and Vermont. Much of it is shipped to England. It is used in finishing many kinds of fabrics—by confectioners, and finds its way into most packages, with the label of Arrow Root for puddings.

Scientific Americans—Second Volume.

The second volume of the Scientific American, bound in a superb manner, containing 416 pages choice reading matter, a list of all the patents granted at the United States Patent Office during the year, and illustrated with over 200 beautiful descriptive engravings of new and improved machines, for sale at this office—Price $2.00. The volume may also be had in sheets, in suitable form for mailing—$ 1.

Jones & Watkins' Self-clearing Anchor.

To Correspondents.

"E P S. of Georgia."—From your description of the Moving Power, it is undoubtedly an invention of great utility, but as it appears to be quite complex we could not judge without more information on the subject. If it is as simple and cheap and correct, it is easily worthy of a patent.

"B. M. P. of Mass.—We could have given you all the necessary information about the magnetic telegraph long ago, but it may be some time before we can do so again.

"B. K. of Ohio"—In the article to which you refer you will get some information which you can appreciate because of its rarity.

"R. R. of Mass."—We believe that no roof covering can defend shingles, or what is better, good Welsh slate for houses near the seaboard. You will be the best judge respecting the economy. Shingles are cheaper at first, but do not last as long as the slate.

"E. V. of Mass."—You will receive the desired information respecting rearing wheels in a future number.

"J. E. of Vt."—The whole subject to which you refer, together with information relating to the Patent Laws, can be found in the early numbers of volume 2, of the Scientific American.

"W. P. of N. Y."—We have sent you Scribner's Engineer's Companion as requested.

"L. B. of Ohio."—You will perceive that we have attended to your wishes in the article "Steam Power."

"H. T. of Pa."—The metals of lead is usually called the sugar of lead. Its combination with the chromate of potash makes the beautiful picture of the dyer and painter.

"T. C. F. of Ohio."—We shall be happy to hear from you again. The negligence you complain of we think will be remedied. The steam must increase if all do their duty.

"C. P. of N. Y."—The application of the gentleman to propel machinery in air and water. What is a sloop but a machine constructed upon that principle? But the application to propel other machines than sloops may justly be called a new invention if it has not been applied to such a machine before. There can be no doubt but it would do well to propel light machinery and for such a purpose has an economical power.

"Mechanic's Helper No. 2, Waterloo"—We are much obliged to you for your kind remarks, and appreciate your expressions of good will. The committee appointed by the U. S. Convention to examine the P. O. Secretary's books feel that they did not formerly understand the whole matter, and that the U. S. is correct. In a short time a document explanatory will be sent to all the Postmasters

"——, Onondaga Falls, N. Y."—If the gentleman from this place who sent us two dollars and did not attach any name to his communications, will inform us who to direct the paper to, we will comply with his request.

Launch of the Steamer Hermann.

The new steamer *Hermann*, the second of the U. S. Mail line between this port, Southampton and Bremen, was launched last Thursday afternoon from the yard of Messrs. Westervelt & Mackay, Seventh st. Her dimensions are: Length on deck, 245 feet; width 41; 41 deep; 41 hours; and her tonnage will not vary much from 1,800 tons. She has been about seven months in building, the keel having been laid in the early part of this year. The machinery was manufactured at the "Novelty works" of Stillman, Allen & Co., and is prepared to go in immediately.

The sudden use of spinors that this vessel has rather cubic feet of timber and more fastenings than any ship of the size ever built. She is rigged ship or more properly speaking bark fashion. She is to be commanded by Capt. F. Crabtree; will accommodate 150 cabin passengers: the saloons and state rooms will be of beautiful combinations; and it is thought she will be ready to make her first trip by the 23d January next.

The keel of the third ship of the same line, we are informed, will be laid in a short time.

A farmer's wife in New Connecticut, Ohio, is preparing an immense cheese for a present to Queen Victoria. With some few of her neighbors, she has procured the milk of 500 cows for the day. The production is a cheese weighing 400 lbs.

Lafayette Electric Machines.

Our readers are referred to the advertisement of these machines in another column where the reasons are given why Dr. A. B. Smith's Electric machines are the best kind in use. Read Dr. Hallock's certificate on this week's paper and look for others in old nos.

Postmaster Publishing Establishment.

Mr. D. H. Hardin, formerly of the firm of Hardin & Co. Petersburg, Va., has recently established a splendid assortment of Fall and Winter Clothing, which he can make into garments as fashionable, as strong and as well, as any tailor in the city. To those who wish to be honestly dealt with, and clean & fashionable garments, we would recommend them to this establishment.

Chambers' Miscellany.

No. 4 of this publication contains matter the former numbers so interspersed as interest to any work of the kind out. Bedford st. Co., Publishers, 2 Astor House

Patent Agency.

Applications for Patents made at the office, on the most reasonable terms. Next drawings, specifications, and engravings in the first the matter, and cheaper than anywhere else. Searches of new inventions, Agency for the sale of Patent Rights, and all business of that nature, promptly attended to. Those who have patent rights to dispose of will find good opportunity and field for their sale—such as Horse Power Machines and Waterwheels of any description. The largest circulation in the world for advertisements of inventions. &c.

Advertisements.

☞ The paper circulates as many sheets as the terms, and is sent promptly by mail to subscribers. Those who may be interested the best medium of advertising, as those who deal in all kinds of machinery, mechanical tools, as well many and materials as are generally used in these shops. The best advertisements in this paper are registered with much more attention than those in cheaply printed sheets.

Advertisements are inserted in this paper at the following rates:

One square, of eight lines one insertion,		$0 50
" " "	two do.	75
" " "	three do.,	1 00
" " "	one month,	1 50
" " "	three do.,	3 75
" " "	six do.,	7 00
" " "	twelve do.,	10 00

TERMS—CASH IN ADVANCE.

GENERAL AGENTS
FOR THE SCIENTIFIC AMERICAN.

New York City,	Geo. Dexter.
Boston,	Munroe, Monroe & Co.
Philadelphia,	Samuel Sweetzer

LOCAL AGENTS

Albany,	Dyson Cass.
Baltimore, Md.	A. Keyser.
Cincinnati, Ohio,	C. W. Short.
Cincinnati, N. H.	Peter Hayward.
Fall River, Mass.	Ezra S. Tinsley.
Hartford, Ct.	E. H. Barnard.
Lancaster, N. Y.	J. Hamlet.
Lynn, Mass.	J. L. F. Bacon.
Middletown, Ct.	W. H. Woodward.
Norwich, Ct.	Stevens & Dana.
New Haven, Ct.	E. Dunbar.
New Bedford, Mass.	Benjamin Perkins & Co.
Newark, N. J.	J. L. Agnew.
Newark, N. J.	Robert Wallace.
Rochester, N. Y.	D. M. Dewey.
Rochester, N. Y.	W. S. Rochester.
Springfield, Mass.	Wm. S. Bellows.
Salem, Mass.	L. Tuttle.
Troy, N. Y.	Isaac Tillotson.
Troy, N. Y.	John Crawford.
Taunton, Mass.	A. Spooner.
Williamsburgh,	W. P. Arnold.
Utica, N. Y.	J. C. Gunnis.
	D. L. Seaman.

CITY AGENCIES.

Gratis Receive 4, Sutton Building.

Persons residing in the city or Brooklyn, can have the paper left at their residences regularly, by sending their address to the office. No. 128 Fulton st. 1st floor.

To Machinists, Carpenters and others.

Mr. Wm. S. Allen, Professor of Mechanics and Architectural Drawing intends opening Evening Classes for the purpose of giving instructions to Machinists and Mechanics in the above branches. Those who have had some knowledge of the above branches, desire the best use of the leisure hours by the highly practical and lucrative study of drawing, are invited to call on the Professor at his office, No. 5, Astor House, where specimens of machinery, buildings, &c., and great proficiency in the above studies, may be seen. Also, at the Merchants' Exchange, Boston, where he will be found on the first Monday in each month, and remain for two weeks; and also at the Patent Agency of Chicago. As the classes will be limited, an early application will be necessary to secure admittance.

For terms and particulars, apply to W. A. Allen, at his residence, 231 Fulton st., opposite the Old Lighthouse. 4*

Mechanics' Institute

OF THE CITY OF NEW YORK.

The subscribers have just issued a supplement to their catalogue of books, which is also for sale at the reduced price of

Six cents per copy.

A LIBERAL DISCOUNT TO THE TRADE.

☞ *This Library is recommended to be the most perfect of any which has yet been published, and the only means for offering it to us at a price to be within the reach of an American community.*

The Library is composed by a selection of works of standard and scientific character, and is intended to be a complete collection of the most valuable works on the subject of

ARTS AND SCIENCES,

and is now offered to the public at the above low price.

JACOB S. DYER,
Publisher of Mechanics Periodical,
No. 128 Fulton st.

Specimens sent to any part of the city free of charge. Orders by mail, post paid, will receive prompt attention. New York, ——, 1845.

Wood Cuts.

The most extensive manufacturer and dealer in wood cuts in the United States, and the only one who has ever had an establishment for the manufacture of the same. They are the only ones who have ever had a good assortment of cuts for the use of Mechanics and Inventors, and have now on hand more than the past year. Their cuts are fine and well up to the art, and of their original and exclusive style of execution. They are also prepared to furnish cuts of all kinds of machinery, and to execute orders at this office in from one to three days. Orders from a distance promptly attended to.

All orders must be addressed to JACOB S. DYER,
128 Fulton st.

Johnson's Improved Shingle Machine.

This celebrated machine having been patented in England, France and the United States, is now in operation at the Shingle Factory in the city of New York, where it can be seen by any one who may wish to purchase. The machine is now offered for sale on the most reasonable terms. Those who have had some experience in the use of the machine, and have had the opportunity of seeing it operate, will find it to be a very valuable machine, and one which will soon be in general use. Those who have had no experience in the use of the machine, and have had the opportunity of seeing it operate, will find it to be a very valuable machine, and one which will soon be in general use.

Machinists Tools.

Why Dr. Smith's Torpedo stands Pre-eminent.

Mr. Barnett, a grocer, has given the great Anti Dyspeptic Torpedo the highest praise, which we think deserved. Read it:

Reading it will not have cured nothing out of the ordinary, which we think deserved. Read it:

In consequence of the above, I procured a bottle from Mr. B. T. Shinn, at the Manhattan Store, New York. The high character of the proprietor, and the confidence of the medicine, induced me to try it. I have used it, and I am happy to say that it has done me much good. I have been troubled with dyspepsia for a long time, and have tried many remedies, but none have done me so much good as the Torpedo. I have been troubled with dyspepsia for a long time, and have tried many remedies, but none have done me so much good as the Torpedo.

Yours, &c. J. BARNETT.

Sold by B. T. Shinn, Manhattan Store, 128 Fulton st. Price $1 per bottle.

Vent! Vent! Vent!

☞ THIS IS THE MOTTO OF ALL THOSE THAT HAVE REMOVED KNOX'S NEW HAT STORE OF 1845, with a view of having—

I HAVE IT NOW! I HAVE IT!

The New York Consolidated Inn of Letters is at the Fulton store.

Lap-welded Wrought Iron Tubes

FOR TUBULAR BOILERS,

From 1 1-4 to 6 inches diameter, and any length, not exceeding 17 feet.

THE undersigned are the sole proprietors of the above patent, and are now prepared to furnish the above tubes at short notice. Orders addressed to the subscribers, Pittsburgh, Pa., will receive prompt attention.

TASKER, TYNDALE, Pittsburgh,
or 128 Fulton st., New York.

The New York Weekly Sun.

A large and handsome newspaper, containing a variety of interesting reading matter, printed in clear type on fine paper, is published every week at low price of

ONE DOLLAR A YEAR.

SINGLE COPIES THREE CENTS EACH.

Each number generally contains an engraving and a few interesting subjects, such as those interesting, beautiful pieces of [illegible] and [illegible] and [illegible] and

Hydrogen Gas.

Water is composed of two bodies which exist naturally in the state of gas; the one is hydrogen and the other oxygen. If we introduce into a bottle one ounce of clean iron filings and pour upon them a mixture of sulphuric acid, in the proportion of one of acid to six of water, hydrogen gas will be evolved in great quantities.

EXPLANATION.—[illegible]

On the difference which exists between Gilding by the use of Mercury and Electro-Gilding.

[illegible]

Natural Gas Jets.

[illegible]

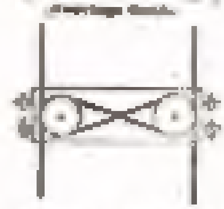
Pots for Signalling with a Purple Light.

[illegible]

MECHANICAL MOVEMENTS.

Traction Wheel.

[illegible]



[illegible]

The Gold Room in Windsor Castle.

[illegible]

The Telegraph among the Turks.

[illegible]

To Boil Hams.

[illegible]

Watches.

[illegible]

Making Gold.

[illegible]

Admiralty Signals.

[illegible]

THE NEW YORK SCIENTIFIC AMERICAN.

This paper, the most popular weekly publication of the kind in the world, is published at 128 Fulton Street, New York, and 13 Court Street, Boston.

BY MUNN & COMPANY.

The principal office being at New York.

[illegible]